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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,569	06/09/2006	Georg Sick	72.102	1592
23598 7590 02/06/2008 BOYLE FREDRICKSON S.C. 840 North Plankinton Avenue MILWAUKEE, WI 53203				
EXAMINER SCHILLER, ALINA				
ART UNIT 3671		PAPER NUMBER		
NOTIFICATION DATE 02/06/2008		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@boylefred.com

Office Action Summary

Application No.

10/553,569

Applicant(s)

SICK, GEORG

Examiner

ALINA SCHILLER

Art Unit

3671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/309)
- Paper No(s)/Mail Date 10/11/2005
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the compaction result detection device (claim 19) and movement detection device (claim 21) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: the headings (Background of Invention, Field of Invention, Summary of Invention, etc.) are missing.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 14, 15 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

5. Regarding claims 14 and 15, the phrase "in particular" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

6. Regarding claim 27, the phrase "essentially" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 2, 7-13, 17, 27-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Brandt et al. 6,088,644.

Regarding claim 1, Brandt discloses a soil compacting system (col. 1, lines 10-19; 32-33; col. 4, line 5, Figs. 1, 3, 4a, 4b), comprising:

- a mobile, steerable soil compacting device (col. 2, lines 1-3; col. 3, lines 20-21; col. 4, lines 5, 9);
- a control device (42, col. 3, lines 44-46);

the control device including:

- a surface definition device which allows an operator to establish a surface to be compacted and the associated surface boundaries (24) (Abstract; col. 1, lines 37-40; 60-62; col. 3, lines 14-16; col. 7, lines 23-34)
- a position detection device (30) for detecting the current position of the soil compacting device at least in the vicinity of the surface boundaries (col. 1, lines 37-38; col. 3, lines 38-41; col. 4, lines 10-13);
- a motion controller for changing a direction of travel by predetermining a target value for a traveling movement of the soil compacting device, such that the soil compacting device does not cross the respective surface boundary, but rather continues its travel within the surface (col. 1, lines 40-41; col. 3, lines 55-56; 58-65; col. 5, lines 14-68; col. 6, lines 20-50; col. 7, lines 39-46).

Regarding claim 2, Brandt discloses that the position detection device is fashioned at least for the detection of an approach of the soil compacting device to one of the surface boundaries; the direction of travel can be changed by the motion controller if the position detection device determines an approach to the surface boundary (col. 1, lines 40-41; col. 3, lines 31-37; 55-56; col. 4, lines 10-13; col. 7, lines 37-42; Figs. 8-10).

Regarding claim 7, Brandt discloses that the motion controller effects a change of the direction of travel from the original direction of travel with a predetermined angle that remains constant during the entire compacting process, or with angles that change during the compacting process and that are selected randomly (Figs. 5b, 6b, 7-10).

Regarding claim 8, Brandt discloses that the control device comprises:

- a path planning device, wherein the soil compacting device travels over the surface to be compacted completely at least once while adhering to the predetermined travel path (col. 3, lines 27-30; col. 7, lines 33-37); wherein
- the position detection device is fashioned for the detection of the current position of the soil compacting device within the surface boundaries (see discussions for claims 1 and 2 above), and
- the motion controller is fashioned for the predetermination of a target value for a travel motion of the soil compacting device based on a comparison of the current position with the predetermined travel path, in such a way that the soil compacting device follows the predetermined travel path (col. 5, lines 14-68; col. 6, lines 20-50; col. 7, lines 32-33).

The examiner notes that the phrase “for setting a predetermination for a travel path on the basis of the defined surface in such a way” is for intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. It is the examiner position that Brandt's system is capable of meeting the limitation in claim 8.

Regarding claim 9, Brandt discloses that the position detection device has a coordinate detection device for determining absolute geographical locus coordinates of its location (col. 4, lines 10-21).

Regarding claim 10, Brandt discloses that the surface definition device has a memory device containing geographical locus information for the region of the surface that is to be compacted (Abstract; col. 3, lines 47-40; col. 5, lines 56-58).

Regarding claim 11, the surface boundaries are inherently capable of being defined by absolute locus coordinates.

Regarding claim 12, the predetermination of the travel path by the path planning device is inherently capable of being defined in the form of absolute or relative geographical locus coordinates.

Regarding claim 13, Brandt discloses that the path planning device has mathematical algorithms (Abstract; col. 2, lines 9-38; col. 3, lines 50-56; col. 5, lines 14-68; col. 6, lines 20-50). The examiner notes that the phrase “for path-optimized and/or time-optimized path planning” is for intended use. A recitation of the intended use of the

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claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. It is the examiner position that Brandt's system is capable of meeting the limitation in claim 13.

Regarding claim 17, Brandt discloses that the position detection device is coupled to a memory device for storing data concerning the positions reached by the soil compacting device (Abstract; col. 3, lines 47-40; col. 5, lines 56-58)

Regarding claims 27 as best understood, 28, and 29, the structure of the apparatus renders the claimed method steps inherent since the claimed method steps would be inherently performed when using the soil compacting system as disclosed by Brandt.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-6, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt et al 6,088,644 in view of Hollon et al 6,287,048.

Regarding claim 3, Brandt discloses a system as previously described, but fails to disclose that the surface definition device has a device for the mechanical, optical, magnetic, inductive, or capacitive identification of the surface boundaries. Hollon teaches that it is well known to have a surface definition device having a device for the optical (col. 8, lines 13-24) or magnetic identification (col. 4, lines 1-3), stating that they are presently available (col. 8, lines 21-22) well known technologies (col. 4, lines 12-13). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Brandt to have the surface definition device having a device for the optical or magnetic identification, similar to those of Hollon, since they are presently available well known technologies, as taught by Hollon.

Regarding claim 4, Brandt discloses a system as previously described, but fails to disclose that the surface identification device is for mechanical identification and has a tape or wire that can be stretched along the surface boundaries. Hollon teaches that it is well known in the art to have a surface identification device for mechanical identification, that has a wire that can be stretched along the surface boundaries (col. 3, lines 48-55; 65-67), stating that it is a presently available (col. 8, lines 21-22) well known technology (col. 4, lines 12-13). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Brandt to have the surface definition for mechanical identification, that has a wire that can be stretched along the surface boundaries, similar to that of Hollon, since this is a presently available well known technology, as taught by Hollon.

Regarding claim 5, Brandt discloses a system as previously described, but fails to disclose that the surface identification device is for optical identification and has coloring agents that can be applied to the soil along the surface boundaries. Hollon teaches that it is well known in the art to have a surface identification device for optical identification having coloring agents that can be applied to the soil along the surface boundaries (col. 3, lines 65-67; col. 8, lines 13-24), stating that it is a presently available (col. 8, lines 21-22) well known technology (col. 4, lines 12-13). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Brandt to have a surface identification device for optical identification having coloring agents that can be applied to the soil along the surface boundaries, similar to that of Hollon, since this is a presently available well known technology, as taught by Hollon.

Regarding claim 6, Brandt discloses a system as previously described, but fails to disclose that the surface identification device is for optical identification and has a photoelectric barrier. Hollon teaches that it is well known in the art to have a surface identification device for optical identification having a photoelectric barrier (col. 4, lines 1-3), stating that it is a presently available (col. 8, lines 21-22) well known technology (col. 4, lines 12-13). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Brandt to have a surface identification device for optical identification having a photoelectric barrier, similar to that of Hollon, since this is a presently available well known technology, as taught by Hollon.

Regarding claim 14 as best understood, Brandt discloses a system as previously described, but remains silent as to at least a part of the components of the control device, in particular the surface definition device, the motion controller, and/or the path planning device, being situated spatially separate from the soil compacting device. Hollon teaches that components of a surface definition device and/or path planning device being situated spatially separate from the soil compacting device (col. 4, lines 7-8) is well known technology (col. 4, lines 12-13). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Brandt to have at least a part of the components of the control device situated spatially separate from the soil compacting device, since this is well known technology, as taught by Hollon.

Regarding claim 15 as best understood, Brandt discloses a system as previously described, but remains silent as to the surface definition device being situated spatially separate from the soil compacting device, wherein data can be transmitted between the surface definition and soil compacting device in wireless fashion, in particular via radio, infrared, or laser. Hollon teaches that components of a surface definition device being situated spatially separate from the soil compacting device (col. 4, lines 7-8) is well known technology (col. 4, lines 12-13). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Brandt to have the surface device situated spatially separate from the soil compacting device, since this is well known technology, as taught by Hollon. The examiner takes

official notice that transmitting data in wireless fashion, such as via radio or laser, is well known in the art.

Regarding claim 16, Brandt discloses a system as previously described, including an input device (col. 3, lines 58-63), but remains silent as to the input device being for manually modifying the target value predetermined by the motion controller provided spatially separate from the soil compacting device, and coupled thereto via a radio, laser, or infrared path. Hollon teaches that manual adjustment is well known in the art (col. 3, lines 53-55; col. 4, lines 7-10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Brandt to have the input device for manual adjustment, as taught by Hollon, since this is well known in the art. Further, this combination would result in the limitations in claim 16 being met. The examiner takes official notice that transmitting data in wireless fashion, such as via radio or laser, is well known in the art.

Claims 18-20 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt et al 6,088,644 in view of Gudat et al 5,646,844.

Regarding claim 18, Brandt discloses a system as previously described, but fails to disclose an evaluation device coupled to the surface definition device and to the position detection device, which has a display for the graphic representation of the predetermined surface boundaries and of the surface already compacted at a given time by the soil compacting device. Gudat teaches that an evaluation device with a display for the graphic representation of the predetermined surface boundaries and of the surface already compacted at a given time by the soil compacting device (Fig. 8;

col. 2, lines 43-45; col. 9, lines 39-50; col. 18, lines 48-51), is well known in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Brandt to have an evaluation device coupled to the surface definition device and to the position detection device, which has a display for the graphic representation of the predetermined surface boundaries and of the surface already compacted at a given time by the soil compacting device, as taught by Gudat, since this is well known in the art, in order to enhance the system.

Regarding claim 19, Brandt discloses a system as previously described, but fails to disclose a compaction result detection device provided for detecting the actual state of compaction of the compacted soil; the compaction result detection device being coupled to the path planning device for the communication of information relating to the actual state of compaction; and that the path planning device is fashioned for the definition of the predetermination of the travel path, taking into account the actual state of compaction. Gudat teaches that it is well known in the art to provide a compaction result detection device, for detecting the actual state of compaction of the compacted soil, which is coupled to a path planning device, for the communication of information relating to the actual state of compaction; and wherein the path planning device is fashioned for the definition of the predetermination of the travel path, taking into account the actual state of compaction (106; col. 6, lines 22-27; 47-56; col. 8, lines 21-24; col. 10, lines 40-56; col. 12, lines 1-8; 46-59; col. 14, lines 7-12; col. 16, lines 30-39). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Brandt to be provided with a compaction result

detection device for detecting the actual state of compaction of the compacted soil; the compaction result detection device being coupled to the path planning device for the communication of information relating to the actual state of compaction; and that the path planning device is fashioned for the definition of the predetermination of the travel path, taking into account the actual state of compaction, as taught by Gudat, in order to enhance the system.

Regarding claim 20, Gudat discloses that in the path planning device, the actual state of compaction can be compared with a predetermined target state of compaction; and the travel path can be predetermined by the path planning device in such a way that soil surfaces in which the actual state of compaction exceeds the target state of compaction, so that a sufficient compaction is already present, are no longer traveled over by the soil compacting device (col. 1, lines 49-52; col. 6, lines 56-60; col. 46-59; col. 18, lines 48-56; col. 20, lines 45-49).

Regarding claim 30, the structure of the apparatus resulted from the combination above renders the claimed method steps inherent since the claimed method steps would be inherently performed when using the soil compacting system as disclosed by the combination of Brandt with Gudat.

10. Claims 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt et al 6,088,644 in view of Sick DE 100 53 446.

Regarding claim 21, Brandt discloses a soil compacting system as previously set forth, but fails to disclose that it comprises:

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- a drive mechanism for producing an advance movement;
 - a steering device for producing a yaw moment about a vertical axle of the soil compacting device;
 - a movement detection device for detecting an actual value for the travel movement;
- and
- a travel regulation device that can be charged with the actual value and the target value predetermined by the motion controller, for controlling the steering device and/or the drive mechanism in such a way that a control deviation formed by the difference between the actual value and the target value is minimal.

Sick teaches that the following components:

- a drive mechanism (2, Fig. 1) for producing an advance movement;
 - a steering device (2) for producing a yaw moment about a vertical axle of the soil compacting device;
 - a movement detection device (6) for detecting an actual value for the travel movement;
- and
- a travel regulation device (7) that can be charged with the actual value and the target value, for controlling the steering device and/or the drive mechanism in such a way that a control deviation formed by the difference between the actual value and the target value is minimal,

are well known in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Brandt to include the components as taught by Sick, since they are all known in the art, in order to obtain an enhanced system.

Regarding claim 22, Sick discloses that the drive mechanism has at least one vibration-exciting device (2) having two shafts (Fig. 1) that are parallel to one another and that can be rotated in opposite directions, each of which bears at least one imbalance mass, and whose phase position to one another can be adjusted.

Regarding claim 23, Sick discloses that on at least one shaft of the vibration-exciting device two imbalance masses are situated so as to be axially offset to one another, and wherein the steering device is fashioned for the adjustment of the phase position of the two imbalance masses.

Regarding claim 24, Sick discloses that the drive mechanism and the steering device are formed by a system of a plurality of vibration-exciting devices (10, 11, 12, Fig. 3b) that are held stationary relative to one another, the vibration-exciting devices each having two shafts that are parallel to one another and that can be rotated in opposite directions, each shaft bearing at least one imbalance mass, the phase position of the shafts being adjustable, an advance movement being producible in a direction of advance by each of the vibration-exciting devices.

Regarding claim 25, Sick discloses that the direction of advance of at least one of the vibration-exciting devices differs from that of the others.

Regarding claim 26, Sick discloses that a soil contact plate charged by the vibration-exciting device or devices has an essentially circular outline (Fig. 3e).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALINA SCHILLER whose telephone number is (571)270-3088. The examiner can normally be reached on Mon-Fri, 7:30AM-4:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on (571)272-6998. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the

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automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas B Will/
Supervisory Patent Examiner, Art Unit 3671

AS
01/31/2008